

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-022855**Date Inspected:** 18-Apr-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** An Qing Xiang**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance (QA) Inspector Umesh Gaikwad was present during the times noted above for observations relative to the fabrication of the Self-Anchored Suspension (SAS) Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island in Shanghai, China. QA observed and/or found the following:

This Quality Assurance (QA) Inspector observed the following work in progress:

Bay 14

OBG Seg 14W:

The Shielded Metal Arc Welding (SMAW) process on weld joint no: SEG3020AF-003 [Deck Plate PL3491B of Deck Panel (DP) 3183A to Edge Panel (EP) 3030E, Complete Joint Penetration (CJP) weld at Panel Point (PP) 127 to PP128]. The welders are identified as 067572 and 037932 and were observed welding in 4G position. ZPMC QC was identified as Mr. Zhu Lin. The welding variables recorded by this QC appeared to comply with WPS: B-P-2214-Tc-U4b-FCM-1.

The SMAW process on weld joint no: SEG3020AG-002 [Deck Plate PL3491A of Deck Panel (DP) 3183A to EP 3030A/3030B/3030C, CJP weld at Panel Point (PP) 125 to PP127]. The welders are identified as 066361, 069841 and 066261 and were observed welding in 4G position. ZPMC QC was identified as Mr. Zhu Lin. The welding variables recorded by this QC appeared to comply with WPS: B-P-2214-Tc-U4b-FCM-1.

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The SMAW process on weld joint no: SEG3020R-016, 017 and 071 to 076[Deck Plate PL3491A of DP 3183A to Floor Beam (FB) diaphragm X4859G, Fillet weld at PP126]. The welder is identified as 069896 and was observed welding in 4F position. ZPMC QC was identified as Mr. Zhu Lin. The welding variables recorded by this QC appeared to comply with WPS: B-P-2114-FCM-1.

The Flux Cored Arc Welding (FCAW) process on weld joint no: SEG3020\*-005 [DP 3171A to DP 3172A, CJP weld]. The welder is identified as 066421 and was observed welding in 1G position. ZPMC QC was identified as Mr. Zhu Lin. The welding variables recorded by this QC appeared to comply with WPS: B-T-223(2)1T-ESAB-1.

The FCAW process on weld joint no: SEG3020N-069 [DP diaphragm X4816F of DP 3173A to top Anchorage Plate (AP) 3018A, CJP weld at PP126.5]. The welder is identified as 067888 and was observed welding in 2G position. ZPMC QC was identified as Mr. An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: B-T-2232-ESAB.

The FCAW process on weld joint no: SEG3020G-002 [DP diaphragm X4856H of DP 3174A to flange of FB 3340A, CJP weld at PP128]. The welder is identified as 066239 and was observed welding in 2G position. ZPMC QC was identified as Mr. An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: B-T-2232-ESAB.

The SMAW process on weld joint no: SEG3020K-004 [DP diaphragm X4858B of DP 3173A to FB sub assembly SA3410A, CJP weld at PP127.3]. The welders are identified as 070007 and 067520 and were observed welding in 2G position. ZPMC QC was identified as Mr. An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: B-P-2212-B-U2-FCM-1.

The FCAW process on weld joint no: SEG3020K-005 [DP diaphragm X4858B of DP 3173A to DP diaphragm X4858A of DP 3174A, CJP weld at PP127.3]. The welder is identified as 067949 and was observed welding in 3G position. ZPMC QC was identified as Mr. An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: B-T-2233-ESAB.

The FCAW process on weld joint no: SEG3020M-008 [DP diaphragm X4817F of DP 3173A to DP diaphragm X4817D of DP 3174A, CJP weld at PP127]. The welder is identified as 066881 and was observed welding in 3G position. ZPMC QC was identified as Mr. An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: B-T-2233-ESAB.

The FCAW process on weld joint no: SEG3020P-006 [DP diaphragm X4816F of DP 3173A to DP diaphragm X4816D of DP 3174A, CJP weld at PP126.5]. The welder is identified as 067275 and was observed welding in 3G position. ZPMC QC was identified as Mr. An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: B-T-2233-ESAB.

During random in process visual inspection this QA Inspector observed that weld joints DP3169-001-083, 119 and 155 at PP125.5, PP126 and PP126.5 respectively were cut by ZPMC personnel for the fit up of DP3168A to DP3169A. This cutting was done as per Welding Repair Report (WRR) B-WR20452. Attached photograph provide additional details.

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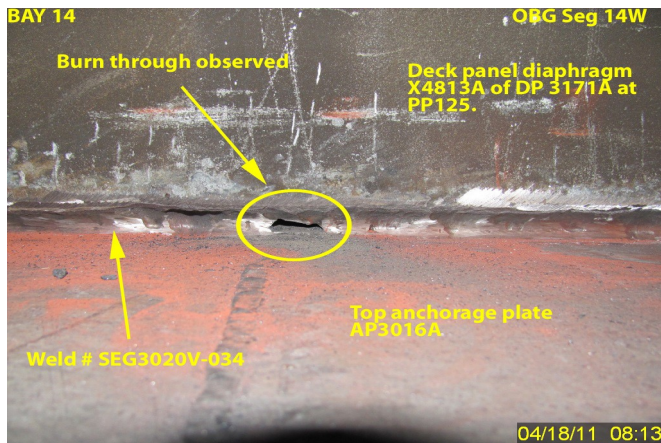
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During random in process inspection this QA inspector observed the burn through on the back gouged area of weld SEG3020V-034 and 029 [Joining DP diaphragm of DP3169A/DP3171A to top AP 3014A/AP3016A at PP125]. This issue has been discussed with ZPMC CWI Mr. An Qing Xiang and ZPMC agreed to do the repair as per contract document and approved repair procedure. Attached photograph provide additional details.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.



### Summary of Conversations:

Only general conversation was held between QA and QC concerning this project.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang : 15000422372, who represents the Office of Structural Materials for your project.

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**Inspected By:** Gaikwad, Umesh

Quality Assurance Inspector

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**Reviewed By:** Peterson, Art

QA Reviewer